

United States Court of Appeals for the Federal Circuit

#25

97-1202
(Serial No. 08/054,951)

IN RE CLEMENT

Judgment

ON APPEAL from the PATENT & TRADEMARK OFFICE

In CASE NO(S). 08/054,951

This CAUSE having been heard and considered, it is

ORDERED and ADJUDGED:

AFFIRMED IN PART AND VACATED IN PART

A True Copy.

Attest: 4/15/98

Anne M. Jensen
Deputy Clerk

ENTERED BY ORDER OF THE COURT

DATED DEC 12 1997

Jan Horbaly
Jan Horbaly, Clerk

ISSUED AS DATE:

FEB 25 1998

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

97-1202

IN RE CLEMENT

Lawrence M. Green, Wolf, Greenfield & Sacks, P.C., of Boston, Massachusetts, argued for the appellant. With him on the brief was Christopher S. Schultz.

John M. Whealan, Associate Solicitor, Office of the Solicitor, Patent and Trademark Office, of Arlington, Virginia, argued for the appellee. With him on the brief were Nancy J. Linck, Solicitor, Albin F. Drost, Deputy Solicitor, and Scott A. Chambers, Associate Solicitor.

Appealed from: Patent and Trademark Office
Board of Patent Appeals and Interferences

A True Copy.

Attest: 4/15/98

Anne M. Tomlinson
Dep. Clerk

United States Court of Appeals for the Federal Circuit

97-1202

(Serial No. 08/054,951)

IN RE CLEMENT

DECIDED: December 12, 1997

Before MAYER, Circuit Judge, SMITH, Senior Circuit Judge, and CLEVINGER, Circuit Judge.

MAYER, Circuit Judge.

Jean-Marie Clement appeals the decision of the United States Board of Patent Appeals and Interferences sustaining the rejection of claims 1-18 and 49-52 in reissue application Serial No. 08/054,951 under 35 U.S.C. § 251 (1994). Because the board correctly applied the recapture rule to bar claims 49-52 and because claims 1-18 alone cannot support the reissue application, we affirm in part and vacate in part.

Background

This case is about U.S. Patent No. 4,780,179 (the '179 patent) issued to Jean-Marie Clement. The '179 patent claims a method for treating waste paper that removes

"stickies," such as glues and plastics, under a first set of environmental conditions, before removing inks under a second set of environmental conditions.

The '179 patent issued from application Serial No. 06/822,943 (the '943 application), which was a continuation of application Serial No. 06/482,623 (the '623 application). During prosecution, Clement amended the claims to overcome U.S. Patent No. 4,360,402, issued to Ortner et al. (Ortner), and an article written by Michael Burns entitled "Waste Paper Preparation Plant and Systems," published in the June/August 1973 issue of Paper Technology (Burns). The broadest of the '623 application's claims, original claim 1, recites:

A method of treating a mixture of printed and contaminated waste paper in order to produce pulps for the use in the manufacture of pulp and paper boards, which method comprises:

(a) forming an aqueous pulp of said waste material at low temperature, low specific mechanical energy, thereby forming a pulpable slurry and releasing the non-ink contaminants from the surface of the paper but without dispersing them inside the fibrous suspension;

(b) separating the non-ink contaminants from the pulp by mechanical separation, without the use of froth floatation or solvent extraction or other process, using conventional screens and centrifugal cleaners and without any further application of strong shear forces to the pulp;

(c) softening of the ink particles vehicles and weakening of their bondings with the surface of the fibres by submitting the pulp at a consistency of more than 15% at the simultaneous actions of (A) high temperature – between 85 and 130° C. – (B) high shear forces and (C) at least one de-inking agent, under alkaline [sic] conditions;

(d) detaching the ink particles from the surface of the fibres and dispersing them into the fibrous suspension by submitting the pulp to the simultaneous actions of (A) high temperature – between 85 and 130° C. – (B) high shear forces and (C) at least one chemical dispersing agent, under alkaline [sic] conditions;

(e) removing the free ink particles by means of the most appropriate known method and up to the degree of brightness required by the final use of the pulp.

In an effort to overcome Ortner, Clement submitted a preliminary amendment in the '943 application dated January 27, 1986, which replaced original claim 1 with claim 42. Claim 42 is limited to: (1) carrying out step (a) at room temperature; (2) using mechanical energy less than 50 KW.H/Ton in step (a); (3) removing the ink by applying a combination of high temperature between 85 and 130° C, mechanical energy greater than 50 KW.H/Ton, and a de-inking or chemical dispersing agent under alkaline conditions in steps (c) and (d), respectively; and (4) limiting the duration of steps (c) and (d) to between two and ten minutes. In this preliminary amendment, Clement argued that Ortner's process could not apply simultaneously the higher temperature and larger shear force (mechanical energy greater than 50 KW.H/Ton) recited in steps (c) and (d). Clement also argued that using a higher temperature in Ortner's process would prevent the final product from having the necessary brightness.

In response, the examiner withdrew the Ortner reference, but relied on Burns until Clement's amendments dated December 23, 1986, and June 29, 1987, and an examiner's amendment dated May 16, 1988, added the following limitations: (1) steps (a) and (b) remove substantially all the non-ink contaminants including the stickies; (2) steps (c) and (d) include strong alkaline conditions having a pH of at least 9; (3) the brightness of the final pulp in step (f) is at least 59 ISO; and (4) step (b) takes place at room temperature. The table at Appendix A shows claim 42 before the last two amendments. In his December 23, 1986, amendment, Clement specifically argued that Burns fails to disclose the strong alkaline conditions having a pH greater than 9 that he added to steps (c) and (d). In his June 29, 1987, amendment, he continued to traverse the examiner's assertion that Burns discloses removing the stickies at room

temperature through the application of mechanical energy lower than 50 KW.H/Ton. The patent issued on October 25, 1988, with claim 42 becoming claim 1, as shown in the table at Appendix B.

On October 18, 1990, Clement filed reissue application Serial No. 07/600,012 (the '012 application). During prosecution of the '012 application, he admitted that he added "very specific process parameters" to issued claim 1 during prosecution of the '943 application "in order to distinguish over the prior art." Clement later abandoned the '012 application in favor of continuation reissue application Serial No. 08/054,951 (the '951 application), presently on appeal. The '951 application includes claims 1-18, which correspond to claims 1-18 of the '179 patent, and claims 49-52, which are admittedly broader than the '179 patent's claims. In his reissue declaration, Clement stated that as a result of his failure to understand the claims and his attorney's failure to appreciate the scope of his invention, claims 1-18 of the '179 patent are unduly limited because "step (a) recites forming the first fibrous suspension at room temperature by applying specific mechanical energy lower than 50 KW. H/Ton." In addition, "the temperature, mechanical energy and pH conditions set forth in steps (c) and (d)" unduly limit claim 1 and claims 2-18, which depend from it. Claim 49 eliminates these limitations and the room temperature limitation in the first claim's step (b). The table at Appendix B compares reissue claim 49 with claim 1 of the '179 patent with differences italicized.

The examiner rejected claims 49-52 under 35 U.S.C. § 251^{*} for being broadened in a reissue application filed outside the two year statutory period. The examiner also rejected claims 1-18 and 49-52 under section 251 for lacking a basis for reissue because recapture is not an error so correctable. The examiner found the reissue declaration defective under 37 C.F.R. § 1.175 (1997) because it failed not only to mention the error in step (b), but also to explain sufficiently how any of the errors arose. The examiner determined that these defects were not curable because the recapture rule applied. Clement appealed the examiner's final rejection to the United States Board of Patent Appeals and Interferences (the board).

The board determined that Clement filed his broadening reissue application timely. It further found that during prosecution of the '179 patent, Clement added temperature, mechanical energy, and pH limitations to overcome prior art rejections. The board noted that the temperature limitation in step (a) and the temperature and mechanical energy limitations in steps (c) and (d) "were argued by [Clement] to be features not suggested by Ortner or Burns and . . . were accepted by the examiner as distinguishing over these references." It concluded that Clement implicitly admitted that "broader claims not restricted to . . . [these limitations] were not patentable over the prior art represented by Ortner." The board found that claims 49-52 do not include these limitations and concluded that the reissue claims seek to broaden the patent in a manner directly pertinent to subject matter that Clement deliberately surrendered to

^{*} Section 251 allows patentees to correct "errors" made during prosecution, such as claiming less than the patentee had a right to claim. A reissue patent may not, however, enlarge the scope of the claims unless the patentee files the reissue application within two years of the grant of the patent.

overcome prior art rejections. It therefore sustained the rejection of claims 49-52 for failing to comply with 35 U.S.C. § 251, and the rejection of claims 1-18 and 49-52 based on a defective reissue declaration. Clement appeals.

Discussion

Determining whether an applicant has met the statutory requirements of 35 U.S.C. § 251 is a question of law, which we review de novo. Mentor Corp. v. Coloplast, Inc., 998 F.2d 992, 994, 27 USPQ2d 1521, 1524 (Fed. Cir. 1993). This legal conclusion is based on underlying findings of fact, which we sustain unless they are clearly erroneous. In re Kemps, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1312 (Fed. Cir. 1996); Mentor, 998 F.2d at 994, 27 USPQ2d at 1524. An attorney's failure to appreciate the full scope of the invention qualifies as an error under section 251 and is correctable by reissue. In re Wilder, 736 F.2d 1516, 1519, 222 USPQ 369, 370-71 (Fed. Cir. 1984). Nevertheless, "deliberate withdrawal or amendment . . . cannot be said to involve the inadvertence or mistake contemplated by 35 U.S.C. § 251." Haliczer v. United States, 356 F.2d 541, 545, 148 USPQ 565, 569 (Ct. Cl. 1966). The recapture rule, therefore, prevents a patentee from regaining through reissue the subject matter that he surrendered in an effort to obtain allowance of the original claims. See Mentor, 998 F.2d at 995, 27 USPQ2d at 1524. Under this rule, claims that are "broader than the original patent claims in a manner directly pertinent to the subject matter surrendered during prosecution" are impermissible. Id. at 996, 27 USPQ2d at 1525.

The first step in applying the recapture rule is to determine whether and in what "aspect" the reissue claims are broader than the patent claims. For example, a reissue

claim that deletes a limitation or element from the patent claims is broader in that limitation's aspect. Clement argues that the board focused too much on the specific limitations that were omitted from the reissue claims. Although the scope of the claims is the proper inquiry, In re Richman, 409 F.2d 269, 274, 161 USPQ 359, 362 (CCPA 1969), claim language, including limitations, defines claim scope. Abtox, Inc. v. Exitron Corp., 122 F.3d 1019, 1023, 43 USPQ2d 1545, 1548 (Fed. Cir. 1997); Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 619, 34 USPQ2d 1816, 1819 (Fed. Cir. 1995) ("[T]he language of the claim defines the scope of the protected invention."). Under Mentor, courts must determine in which aspects the reissue claim is broader, which includes broadening as a result of an omitted limitation. The board did not err by determining which limitations Clement deleted from the patent claims.

The second step is to determine whether the broader aspects of the reissue claims relate to surrendered subject matter. To determine whether an applicant surrendered particular subject matter, we look to the prosecution history for arguments and changes to the claims made in an effort to overcome a prior art rejection. See Mentor, 998 F.2d at 995-96, 27 USPQ2d at 1524-25; Ball Corp. v. United States, 729 F.2d 1429, 1436, 221 USPQ 289, 294-95 (Fed. Cir. 1984).

Although the recapture rule does not apply in the absence of evidence that the applicant's amendment was "an admission that the scope of that claim was not in fact patentable," Seattle Box Co. v. Industrial Crating & Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984), "the court may draw inferences from changes in claim scope when other reliable evidence of the patentee's intent is not available," Ball,

729 F.2d at 1436, 221 USPQ at 294. Deliberately canceling or amending a claim in an effort to overcome a reference strongly suggests that the applicant admits that the scope of the claim before the cancellation or amendment is unpatentable, but it is not dispositive because other evidence in the prosecution history may indicate the contrary.” See Mentor, 998 F.2d at 995-96, 27 USPQ2d at 1524-25; Ball, 729 F.2d at 1438, 221 USPQ at 296; Seattle Box Co., 731 F.2d at 826, 221 USPQ at 574 (declining to apply the recapture rule in the absence of evidence that the applicant’s “amendment . . . was in any sense an admission that the scope of [the] claim was not patentable”); Haliczer, 356 F.2d at 545, 148 USPQ at 569 (acquiescence in the rejection and acceptance of a patent whose claims include the limitation added by the applicant to distinguish the claims from the prior art shows intentional withdrawal of subject matter); In re Willingham, 282 F.2d 353, 354, 357, 127 USPQ 211, 213, 215 (CCPA 1960) (no intent to surrender where the applicant canceled and replaced a claim without an intervening action by the examiner). Amending a claim “by the inclusion of an additional limitation [has] exactly the same effect as if the claim as originally presented had been canceled and replaced by a new claim including that limitation.” In re Byers, 230 F.2d 451, 455, 109 USPQ 53, 55 (CCPA 1956).

Once we determine that an applicant has surrendered the subject matter of the canceled or amended claim, we then determine whether the surrendered subject matter

” For example, if an applicant amends a broad claim in an effort to distinguish a reference and obtain allowance, but promptly files a continuation application to continue to traverse the prior art rejections, circumstances would suggest that the applicant did not admit that broader claims were not patentable – assuming that the applicant does not ultimately abandon the continuation application because the examiner refuses to withdraw the rejections.

has crept into the reissue claim. Comparing the reissue claim with the canceled claim is one way to do this. In re Wadlinger, 496 F.2d 1200, 1204, 181 USPQ 826, 830 (CCPA 1974); Richman, 409 F.2d at 274, 161 USPQ at 362. If the scope of the reissue claim is the same as or broader than that of the canceled claim, then the patentee is clearly attempting to recapture surrendered subject matter and the reissue claim is, therefore, unallowable. Ball, 729 F.2d at 1436, 221 USPQ at 295 ("The recapture rule bars the patentee from acquiring, through reissue, claims that are the same or of broader scope than those claims that were canceled from the original application.") (emphasis omitted); Byers, 230 F.2d at 456, 109 USPQ at 56. In contrast, a reissue claim narrower in scope escapes the recapture rule entirely. Ball, 729 F.2d at 1436, 221 USPQ at 295.

Some reissue claims, however, are broader than the canceled claim in some aspects, but narrower in others. In Mentor, for example, the issued claim, which was directed to a condom catheter, recited an adhesive means that was transferred from an outer to an inner surface without turning the condom inside-out. 998 F.2d at 993, 27 USPQ2d at 1523. The issued claim also recited, inter alia, that the condom catheter included a "thin cylindrical sheath member of resilient material rolled outwardly upon itself to form consecutively larger rolls" One canceled claim recited an adhesive means between the rolls, but did not specify that the adhesive was transferred from the outer to the inner surface without turning the condom inside-out. Another canceled claim recited that adhesive was transferred from the outer to the inner surface, but did not specify that this operation was done without turning the condom inside-out. The prior art rejections focused on the obviousness of the adhesive means positioned

between the rolls and the process of transferring adhesive to the inner surface of the condom.

In making amendments to the claim, the applicant argued that “none of the references relied upon actually showed the transfer of adhesive from the outer surface to the inner surface as the sheath is rolled up and then unrolled.” *Id.* at 995-96, 27 USPQ2d at 1524-25 (emphasis in original). The reissue claim eliminated the limitation that adhesive was transferred from the outer to the inner layer, and was, therefore, broader in this aspect. The reissue claim was also narrower than the canceled claim because it recited that the catheter included “a thin, flexible cylindrical member of resilient material rolled outwardly upon itself to form a single roll” (Emphasis added). We held that, although the “flexible” and “single roll” limitations made the reissue claim narrower than both the canceled and issued claims, it did not escape the recapture rule because these limitations did not “materially narrow the claim[.]” *Id.* at 996-97, 27 USPQ2d at 1525-26.

Similarly, in *Ball*, the issued claim recited “a plurality of feedlines” and a “substantially cylindrical conductor.” 729 F.2d at 1432-33, 221 USPQ at 291-92. The canceled claim recited “feed means includ[ing] at least one conductive lead,” and a “substantially cylindrical conductor.” The prosecution history showed that the patentee added the “plurality of feedlines” limitation in an effort to overcome prior art, but the cylindrical configuration limitation was neither added in an effort to overcome a prior art rejection, nor argued to distinguish the claims from a reference. *Id.* The reissue claim included limitations not present in the canceled claims that related to the feed means element, but allowed for multiple feedlines. On balance, the claim was narrower than

the canceled claim with respect to the feed means aspect. The reissue claim also deleted the cylindrical configuration limitation, which made the claim broader with respect to the configuration of the conductor. Id. at 1437, 221 USPQ at 295. We allowed the reissue claim because the patentee was not attempting to recapture surrendered subject matter. Id. at 1438, 221 USPQ at 296.

In both Mentor and Ball, the relevance of the prior art rejection to the aspects narrowed in the reissue claim was an important factor in our analysis. From the results and reasoning of those cases, the following principles flow: (1) if the reissue claim is as broad as or broader than the canceled or amended claim in all aspects, the recapture rule bars the claim; (2) if it is narrower in all aspects, the recapture rule does not apply, but other rejections are possible; (3) if the reissue claim is broader in some aspects, but narrower in others, then: (a) if the reissue claim is as broad as or broader in an aspect germane to a prior art rejection, but narrower in another aspect completely unrelated to the rejection, the recapture rule bars the claim; (b) if the reissue claim is narrower in an aspect germane to prior art rejection, and broader in an aspect unrelated to the rejection, the recapture rule does not bar the claim, but other rejections are possible. Mentor is an example of (3)(a); Ball is an example of (3)(b).

In our case, reissue claim 49 is both broader and narrower in areas relevant to the prior art rejections. Comparing reissue claim 49 with claim 42 before the May 1988 and June 1987, amendments (see the tables at Appendices A and B), we see that claim 49 is narrower in one area, namely, the brightness is "at least 59 ISO in the final pulp." This narrowing relates to a prior art rejection because, during the prosecution of the '179 patent, Clement added this brightness limitation in an effort to overcome

Burns. Our comparison also reveals that reissue claim 49 is broader in that it eliminates the room temperature and specific energy limitations of step (a), and the temperature, specific energy, and pH values of steps (c) and (d). This broadening directly relates to several prior art rejections because, in an effort to overcome Ortner, Clement added to step (a) the limitation that it is carried out “at room temperature,” and applies “specific mechanical energy lower than 50 KW.H/Ton to form a pumpable slurry” He argued, moreover, that the latter limitation overcame Burns despite the examiner’s contention to the contrary. Clement also added to steps (c) and (d) the temperature and specific energy values in an effort to overcome Ortner, and the “strong” alkaline conditions “having a pH of at least 9” limitation in an effort to overcome Burns. Clement admitted, furthermore, that he added these “very specific process parameters . . . in order to distinguish over the prior art.” Claim 49 omits each of these limitations.

On balance, reissue claim 49 is broader than it is narrower in a manner directly pertinent to the subject matter that Clement surrendered throughout the prosecution. Even with the additional limitations, claims 50-52 are also broader than they are narrower in a manner directly pertinent to the subject matter that Clement surrendered during prosecution.

We do not address whether the reissue claims in this case are broader than the canceled claims in a manner directly related to the alleged error supporting reissue because we see no dispositive significance in this inquiry. In Ball, we said that the recapture rule does not apply when the reissue claim is broader than the canceled claim in a manner unrelated to the alleged error supporting reissue, but did not address

whether the recapture rule would apply if the broadening did relate to the alleged error. 729 F.2d at 1438, 221 USPQ at 296. We can envision a scenario in which the patentee intentionally fails to enumerate an error so that he may eliminate a limitation that he argued distinguished the claim from a reference or added in an effort to overcome a reference and claim protection under Ball. We, therefore, think Ball is limited to its facts: the recapture rule does not apply when the broadening not only relates to an aspect of the claim that was never narrowed to overcome prior art, or argued as distinguishing the claim from the prior art, but also is not materially related to the alleged error. Accordingly, Ball does not require us to determine whether the broader aspects of the reissue claims are related to the alleged error supporting reissue.

Clement argues that, although claim 49 is broader than the issued claims, it is materially narrower than original claim 1; therefore, the recapture rule should not apply. He relies on the unsupported assumption that, for purposes of the recapture rule, we should compare the scope of the reissue claims with that of only original claim 1 to determine whether or not the reissue claim is broader in a material way. Clement has chosen original claim 1 as the basis for comparison because, in his view, it does not include limitations enumerated by the board as missing from the reissue claims. These limitations are the room temperature limitation in step (a) and the specific values of the specific energy limitations in steps (c) and (d).

Clement's assumption ignores the board's finding that the reissue claims delete the value of the high temperature and pH limitations in steps (c) and (d) and the room temperature limitation of step (b). It also ignores much of the prosecution history. The prosecution history shows that Clement abandoned the subject matter of claim 42, as it

existed before the examiner's amendment dated May 16, 1988, because he allowed the examiner to amend it to obtain allowance and no other evidence suggests that Clement did not intend to abandon it. He also abandoned the subject matter of claim 42, as it existed before his June 29, 1987, amendment, as it existed before his December 23, 1986, amendment, and as it existed in his preliminary amendment. Based on his actions and statements in the prosecution history of the '179 patent and his admission in the history of the '012 application, every time Clement amended his claims, he intentionally omitted or abandoned the claimed subject matter. Furthermore, his argument that we should compare reissue claim 49 with original claim 1 is reminiscent of the patentee's unsuccessful argument in Byers. There, the patentee argued that the reissue claims were "intermediate in scope between certain broad claims which were canceled from [the patentee's] original application and the limited claim allowed in the patent." 230 F.2d at 457, 109 USPQ at 57. In response, the court noted that the "rejection is not based on the cancellation of the broader claims referred to in [the patentee's] brief The fact that there were other claims whose cancellation did not constitute such a bar is immaterial." Id.

We agree with the board's conclusion that the reissue claims are broader than the patent claims in a manner directly pertinent to the subject matter that Clement surrendered during prosecution. Therefore, it correctly applied the recapture rule, and we affirm the board's decision to sustain the examiner's rejection of claims 49-52.

Because we affirm the board's decision on recapture, Clement cannot cure the allegedly defective declaration with respect to claims 49-52. As a result, we do not reach that issue. Because claims 1-18 are not subject to the recapture rule, however, a

defective declaration would not, in and of itself, invalidate them. The Commissioner concedes this point and reminds that, because under 35 U.S.C. § 252 (1994) the surrender of the '179 patent does not take effect until the reissue patent issues, "original claims 1-18 continue to exist with their normal presumption of validity," unaffected by the examiner's rejection based on the allegedly defective declaration. We, therefore, vacate the board's decision to the extent that it rejects claims 1-18 because of the allegedly defective declaration.

Claims 1-18 alone cannot support a reissue application. See In re Keil, 808 F.2d 830, 830, 1 USPQ2d 1427, 1428 (Fed. Cir. 1987) (Section 251 requires a change in "either the patent specification or claims."); In re Dien, 680 F.2d 151, 152 n.4, 214 USPQ 10, 12 n.4 (CCPA 1982) ("[I]t goes without saying that reissue of a patent in identical form with the original patent is not a possibility."). The '951 application would fail, therefore, to comply with section 251 even if Clement were to cure the allegedly defective declaration.

Conclusion

Accordingly, the decision of the Board of Patent Appeals and Interferences sustaining the rejection of claims 49-52, and to reject the reissue application is affirmed, and its decision to reject original claims 1-18 is vacated.

COSTS

Each party shall bear its own costs.

AFFIRMED IN PART AND VACATED IN PART

APPENDIX A

<p style="text-align: center;">Claim 42 Before Clement's Amendment on 6/29/87</p>	<p style="text-align: center;">Claim 42 Before Examiner's Amendment on 5/16/88</p>
<p>A method of treating a mixture of printed and contaminated waste paper in order to produce pulps for use in the manufacture of paper and paperboards, which method comprises:</p>	<p>A method of treating a mixture of printed and contaminated waste paper in order to produce pulps for use in the manufacture of paper and paperboards, which method comprises:</p>
<p>(a) forming an aqueous fibrous suspension of said waste paper at room temperature without deinking agents by applying specific mechanical energy lower than [sic] 50 KW.H/Ton to form a pumpable slurry and to release the non-ink contaminants, from the surface of the paper fibers in the absence of deinking agents and without dispersing such non-ink contaminants as finely divided particles throughout the fibrous suspension;</p>	<p>(a) forming a first aqueous fibrous suspension of said waste paper at room temperature by applying specific mechanical energy lower than [sic] 50 KW.H/Ton to form a pumpable slurry and to release the non-ink contaminants, from the surface of the paper and without dispersing such non-ink contaminants as finely divided particles throughout the fibrous suspension;</p>
<p>(b) removing the released non-ink contaminants from the fibrous suspension by screening and cleaning;</p>	<p>(b) removing the non-ink contaminants which have been released without dispersal as finely divided particles from the first fibrous suspension by screening and cleaning to form a second aqueous fibrous suspension substantially free of non-ink contaminants;</p>
<p>(c) softening the ink vehicles and weakening their binding with the surface of the fibers by submitting the fibrous suspension at a consistency of more than 15% to the simultaneous actions of (A) a high temperature between 85° and 130° C, (B) high shear forces substantially corresponding to a specific mechanical energy of more than 50 KW.H/Ton applied at the said consistency of more than 15% and (C) at least one deinking agent under strong alkaline conditions having a pH preferably greater than 9;</p>	<p>(c) after the step of removing the non-ink contaminants softening the ink vehicles and weakening their binding with the surface of the fibers by submitting the second fibrous suspension at a consistency of more than 15% to the simultaneous actions of (A) a high temperature between 85° and 130° C, (B) high shear forces substantially corresponding to a specific mechanical energy of more than 50 KW.H/Ton applied at the said consistency of more than 15% and (C) at least one deinking agent under strong alkaline conditions having a pH of at least 9; and</p>

APPENDIX A (continued)

Claim 42 Before Clement's Amendment on 6/29/87	Claim 42 Before Examiner's Amendment on 5/16/88
(d) detaching the ink particles from the surface of the fibers and dispersing them into the fibrous suspension by submitting the fibrous suspension to the simultaneous actions of (A) high temperature between 85° and 130° C, (B) high shear forces substantially corresponding to a specific mechanical energy of more than 50 KW.H/Ton applied at the said consistency of more that [sic] 15% and (C) at least one chemical dispersing agent, under strong alkaline conditions having a pH preferably greater than 9;	(d) detaching the ink particles from the surface of the fibers and dispersing them into the second fibrous suspension by submitting the second fibrous suspension to the simultaneous actions of (A) high temperature between 85° and 130° C, (B) high shear forces substantially corresponding to a specific mechanical energy of more that [sic] 50 KW.H/Ton applied at the said consistency of more than 15% and (C) at least one chemical dispersing agent, under strong alkaline conditions having a pH of at least 9 whereby higher specific energy inputs and higher temperatures are used to detach the ink particles from the fibers of the second fibrous suspension after removal of the non-ink contaminants than are used on the first fibrous suspension before removal of the non-ink contaminants;
(e) limiting the total duration of the ink softening and detaching steps (c) and (d) to a range between 2 and 10 minutes and	(e) limiting the total duration of the ink softening and detaching steps (c) and (d) to a range between 2 and 10 minutes and
(f) removing the detached ink particles from the fibrous suspension to provide the degree of brightness required in the final product of the pulp.	(f) removing the detached ink particles from the second fibrous suspension to provide the degree of brightness required in the final product of the pulp.

APPENDIX B

Patent Claim 1	Reissue Claim 49
A method of treating a mixture of printed and contaminated waste paper in order to produce a pulp for use in the manufacture of paper and paperboards, said waste paper containing non-ink contaminants including stickies, which method comprises:	A method of treating a mixture of printed and contaminated waste paper in order to produce a pulp for use in the manufacture of paper and paperboards, said waste paper containing non-ink contaminants including stickies, which method comprises:
(a) forming a first aqueous fibrous suspension of said waste paper <i>at room temperature</i> by applying <i>specific mechanical energy lower than [sic] 50 KW.H/Ton</i> to form a pumpable slurry and to release substantially all of the non-ink contaminants including the stickies, from the surface of the paper and without dispersing such non-ink contaminants as finely divided particles throughout the fibrous suspension;	(a) forming a first aqueous fibrous suspension of said waste paper <i>at a temperature below the melting point of the non-ink contaminants</i> by applying <i>specific mechanical energy sufficient to form a pumpable slurry</i> and to release substantially all of the non-ink contaminants including the stickies, from the surface of the paper and without dispersing such non-ink contaminants as finely divided particles throughout the fibrous suspension;
(b) removing substantially all of the non-ink contaminants including the stickies, which have been released without dispersal as finely divided particles from the first fibrous suspension by screening and cleaning <i>at room temperature</i> to form a second aqueous fibrous suspension substantially free of the non-ink contaminants including the stickies;	(b) removing substantially all of the non-ink contaminants including the stickies, which have been released without dispersal as finely divided particles from the first fibrous suspension by screening and cleaning to form a second aqueous fibrous suspension substantially free of the non-ink contaminants including the stickies;
(c) after the step of removing the non-ink contaminants softening the ink vehicles and weakening their binding with the surface of the fibers by submitting the second fibrous suspension at a consistency of more than 15% to the simultaneous actions of (A) <i>a high temperature between 85° and 130° C.</i> , (B) <i>high shear forces substantially corresponding to a specific mechanical energy of more than 50 KW.H/Ton</i> applied at the said consistency of more than 15% and (C) <i>at least one deinking agent under</i>	(c) after the step of removing the non-ink contaminants, (1) softening the ink vehicles and weakening their binding with the surface of the fibers, and then (2) detaching the ink particles from the surface of the fibers and dispersing the particles into the second fibrous suspension by submitting the second fibrous suspension at a consistency of more than 15% to the simultaneous actions of temperature, pressure, specific energy and chemical dosing sufficient to insure softening of the ink vehicles,

APPENDIX B (continued)

Patent Claim 1	Reissue Claim 49
<i>strong alkaline conditions having a pH of at least 9; and</i>	<p>detachment of the ink particles from the surface of the fibers and dispersion of the detached ink particles into the second fibrous suspension, whereby higher specific energy inputs and higher temperatures are used to detach the ink particles from the fibers of the second fibrous suspension after removal of the non-ink contaminants than are used on the first fibrous suspension before removal of the non-ink contaminants;</p>
<p>(d) detaching the ink particles from the surface of the fibers and dispersing them into the second fibrous suspension by submitting the second fibrous suspension to the simultaneous actions of (A) <i>high temperature between 85° and 130° C.</i>, (B) <i>high shear forces substantially corresponding to a specific mechanical energy of more than 50 KW.H/Ton</i> applied at the said consistency of more that [sic] 15% and (C) <i>at least one chemical dispersing agent, under strong alkaline conditions having a pH of at least 9</i> whereby higher specific energy inputs and higher temperatures are used to detach the ink particles from the fibers of the second fibrous suspension after removal of the non-ink contaminants than are used on the first fibrous suspension before removal of the non-ink contaminants;</p>	
<p>(e) limiting the total duration of the ink softening and detaching steps (c) and (d) to a range between 2 and 10 minutes and</p>	
<p>(f) removing the detached ink particles from the second fibrous suspension to provide a brightness of at lesat [sic] 59 ISO [in] the final pulp.</p>	<p>(d) limiting the total duration of step (c)(1) and (c)(2) to a range between 2 and 10 minutes and</p> <p>(e) removing the detached ink particles from the second fibrous suspension to provide a brightness of at least 59 ISO in the final pulp.</p>